

REMARKS

Upon entry of the present amendment, Amendment A, claims 1-4 are pending in the application, of which claims 1, 2 and 3 are independent. Claims 1 and 2 are amended herein to replace the term “means”, used in multiple instances, with the term “device”. In addition, new claims 3 and 4 are added. The amendments to the claims are fully supported in the specification as discussed below, and no new matter is added.

The above-identified Office Action has been reviewed, the references carefully considered, and the Examiner's comments carefully weighed. In view thereof, the present Amendment is submitted. It is contended that by the present Amendment, all bases of rejection set forth in the Office Action have been traversed and overcome. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

In the Specification

At items 1 and 2 of the Office Action, the Examiner objected to the specification, stating that the Abstract should be amended to comport to US practice with respect to overall length and syntax. The applicant has amended the Abstract of the specification herein as suggested by the Examiner, whereby the objection is obviated.

In the Drawings

In Fig. 1, a previously omitted arrow extending from 12 (friction coefficient detection) to 14 (target deceleration detection) has been added. The arrow was inadvertently omitted from the originally filed figure. The amendment to Figure 1 is supported at page 7, lines 5-11, which states

that the friction coefficient μ detected by the friction coefficient detecting means 12 is input to the target calculating means 14, thus no new matter is added.

In the Claims

Claim Rejections – 35 USC 102

At item 4 of the Office Action, the Examiner rejected claim 1 under 35 USC 102 (e) as being anticipated by Matsumoto et al (US 6,868,324). In the rejection of claim 1, the Examiner states that Figure 1 of Matsumoto clearly discloses the claimed motion control apparatus for vehicle including a road data storing means 14, own vehicle position detecting means 13, vehicle speed detecting means 20FL, 20FR, 20RL, and 20 RR, corner radius arithmetically operating means for obtaining a radius of a corner existing on a route 15 (col. 10, lines 33-36), actual turning radius arithmetically operating means for determining the actual turning radius based on vehicle speed and motion parameters, and radius difference calculating means 8 (col. 2, lines 13-17 and col. 9, lines 62-66) and motion state control means for controlling the motion state of the vehicle 7 (or 12).

Applicant's Response

Upon review of Matsumoto, the applicant finds that the disclosure is directed to a vehicle travel control system which calculates a curve of a road ahead of a vehicle based on coordinate data obtained from a navigation device such as a GPS system. Based on the calculated curve, vehicle speed, lateral acceleration, road surface friction, etc, the control system acts to control the braking of the vehicle in order to decelerate to vehicle to a calculated acceptable speed.

The applicant respectfully disagrees that Matsumoto anticipates the applicant's invention since Matsumoto does not disclose each and every claimed feature, as is the standard for an

anticipatory rejection.

Matsumoto discloses a road data storing means 14, a vehicle position detector 13, 15 (GPS), a vehicle speed detector (indirectly, since it is calculated from detected wheel speeds via wheel speed sensors 20), a corner radius calculating device (control unit 8 uses input from GPS 13, col. 4 lines 42+), and a motion parameter detector (steer angle sensor 19, calculated road surface friction coefficient and lateral acceleration correspond to this feature).

However, Matsumoto does not disclose an actual turning radius calculating device which calculates an actual turning radius of the vehicle *based on the vehicle speed and motion parameters*, as claimed, which is different from the corner radius calculating device disclosed in column 4 of Matsumoto. Matsumoto only describes calculation of the road curvature based on corresponding node points from the car navigation system 15 or from curvatures previously stored as node information in the car navigation system 15, and does not suggest or disclose calculation of actual curvature, as traveled by the vehicle, based on vehicle speed and motion parameters such as slip ratio, yaw rate, and lateral acceleration, as recited in claim 1.

Further, the applicant does not agree that Matsumoto discloses a radius difference calculating device for calculating the difference between the calculated corner radius and the actual radius as calculated by the actual turning radius calculating device.

Still further, the applicant does not agree that Matsumoto provides a motion state control device that controls a motion state of a vehicle so that the actual turning radius becomes close to the radius of the corner, as claimed. Instead, Matsumoto controls the vehicle to decelerate the vehicle through control of the brakes to avoid discomfort to the vehicle operator, and does not disclose monitoring an actual traveled curvature in relation to the calculated road curvature, and controlling

the turn angle of the vehicle based on the result. Matsumoto, in a manner similar to that disclosed by the applicant, does provide individual control of the wheel brakes (col. 3, lines 6-9). However, Matsumoto only discloses deceleration of the vehicle in response to a required deceleration, and discloses differences between front and rear wheel brake pressures to produce a preferable distribution of the braking force between the front wheels and the rear wheels (col. 8, line 38-40). Specifically, control to obtain such an optimal front/rear brake force distribution would not result in the actual turning radius becoming closer to the radius of the corner, as claimed.

Since Matsumoto does not anticipate or make obvious the applicant's claimed invention as discussed above, reconsideration and withdrawal of the rejection of claim 1 is respectfully requested.

Allowable Subject Matter

At item 5 of the Office Action, the Examiner indicates that claim 2 is allowable over the art of record. The applicant gratefully acknowledges the indication that the application contains allowable subject matter.

Other Matters

New claims 3 and 4 are added herein.

Independent claim 3 is a slightly modified version of claim 1, and is supported in the specification by original claim 1 and at pages 5-9 of the written description.

Claim 4 depends from claim 1 and is directed to how motion control is effected through use of the brakes. The limitation recited in claim 4 is supported in the specification at page 11,

lines 6-11 and page 12, line 27 – page 13, line 4. Claim 4 avoid rejection in view of Matsumoto since Matsumoto does not suggest or disclose individual control of the brakes such that each brake applies a unique force so that a vehicle direction correction is achieved. Matsumoto discloses deceleration of the vehicle in response to a required deceleration, and merely discloses differences between front and rear wheel brake pressures to produce a preferable distribution of the braking force between the front wheels and the rear wheels (col. 8, line 38-40). Specifically, control to obtain such an optimal front/rear brake force distribution does not suggest individual control of each brake such that each brake applies a unique force, nor does it suggest effecting vehicle direction correction through brake control.

Thus, no new matter is added by these amendments, and both claims are fully supported in the specification.

Conclusion

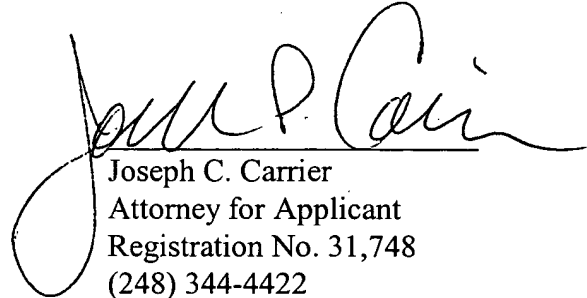
The applicant respectfully submits that all of the above amendments are fully supported by the original application. The applicant also respectfully submits that the above amendments do not introduce any new matter into the application.

Based on all of the foregoing, the applicant respectfully submits that all of the objections and rejections set forth in the Office Action are overcome, and that as presently amended, all of the pending claims are believed to be allowable over all of the references of record, whether considered singly or in combination. The applicant requests reconsideration and withdrawal of the rejection of record, and allowance of the pending claims.

If any issues remain unresolved, applicant respectfully requests that the Examiner telephonically contact applicant's undersigned representative to expeditiously resolve prosecution of the application.

Favorable reconsideration is respectfully requested.

Respectfully submitted,



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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as First Class Mail, with appropriate postage thereon, in an envelope addressed to the Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450 on September 19, 2006.



IN THE DRAWINGS:

The attached sheet of drawings includes changes to Fig. 1. This sheet, which includes only Fig. 1, replaces the original sheet including only Fig. 1. In Fig. 1, a previously omitted arrow extending from 12 (friction coefficient detection) to 14 (target deceleration detection) has been added.

Attachment: Replacement Sheet
 Annotated Sheet Showing Changes



PREVIOUSLY OMITTED ARROW

FIG.1

